



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/680,681	10/07/2003	Ravi Kuchibhotla	CS23736RL	5437
20280	7590	01/08/2007	EXAMINER	
MOTOROLA INC 600 NORTH US HIGHWAY 45 ROOM AS437 LIBERTYVILLE, IL 60048-5343			MEHRPOUR, NAGHMEH	
			ART UNIT	PAPER NUMBER
			2617	
SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE		
3 MONTHS	01/08/2007	PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)
	10/680,681	KUCHIBHOTLA ET AL.
	Examiner	Art Unit
	Naghmeh Mehrpour	2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 25 October 2006.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-30 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application
- 6) Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. **Claims 1-15, 22-25, 27-29**, are rejected under 35 U.S.C. 102(e) as being anticipated by Muhonen (US Patent Number 2005/0181788 A1).

Regarding claim 1, Muhonen teaches a method of operating a user device in a network, comprising:

receiving a signaling message that includes a rule set associated with a core network (0019, 0028, 0046, 0047);

receiving a broadcast information including access information associated with a shared network (0028, 0042);

applying the shared network information received to the core network rule set to determine a behavior of the user device (0040-0046).

Regarding claim 2, Muhonen inherently teaches a method wherein the signaling message is a registration accept message (0046, 0047).

Regarding claim 3, Muhonen inherently teaches a method wherein the signaling message is a location update accept message (0046-0051).

Regarding claim 4, Muhonen inherently teaches a method wherein the signaling message is a location update reject message (0046-0051).

Regarding claim 5, Muhonen inherently teaches a method wherein the signaling message is a registration reject message (0046-0051).

Regarding claim 6, Muhonen teaches a method wherein the access information is a location identity (0028, 0037).

Regarding claim 7, Muhonen teaches a method wherein the location identity is a location area, and wherein the user device uses the rule to translate the location area received into a mapped location area for the associated core network (0037, 0041, 0042).

Regarding claim 8, Muhonen teaches a method where the location identity is the network identity (0038, 0039).

Regarding claim 9, Muhonen teaches a method where the location identity is an SSID (0051, 0052).

Regarding claims 10, Muhonen teaches a method wherein the location identity is a routing area identity, and wherein the user device uses the rule to translate the routing area received into mapped routing area for the associated core network (0038, 0052, 0053).

Regarding claims 11, Muhonen teaches a method wherein the behavior is transmitting the mapped location area in a routing area update request (0022-0027).

Regarding claims 12, Muhonen teaches a method wherein the behavior is transmitting the mapped routing area in a routing area update request (0022-0027).

Regarding claim 13, Muhonen teaches a method of claim 1, wherein the behavior is transmitting a location area update request for a circuit switched network (0021-0027).

Regarding claim 14, Muhonen teaches a method wherein the behavior is transmitting a routing area update request for a packet switched network (0021-0027).

Regarding claim 15, a Muhonen teaches method wherein the behavior is refraining from transmitting a location identity update request (0051, 0052).

Regarding claim 22, Muhonen teaches a method of operating a network element to support a network comprising:

- detecting a call establishment event for a target user device (0020, 0024, 0038);
- determining a current location identity of the target user device (0021-0027);
- mapping the current location identity of the target device to a network location identities using a rule set associated with the target user device and the core network (0038, 0039, 0051, 0052); and
- communicating a message according to the mapped access network location identities (0038, 0039).

Regarding claim 23, Muhonen teaches a method wherein the step of communicating the message, further comprises the step of sending a request to the radio network controller to transmit the message to the mapped location identities (0022-0027).

Regarding claim 24, Muhonen inherently teaches a method further including the step in a shared access network of determining whether a location update accept communication needs to be sent to the user device (0046-0051).

Regarding claim 25, Muhonen teaches a method wherein the shared access network is a public land mobile network (0053).

Regarding claim 27, Muhonen teaches a method wherein the network element is in a core network, and further including the step transmitting a request to the local area network to broadcast a paging message on the mapped access network identity areas (0037,0038).

Regarding claim 28, Muhonen teaches a method wherein the network element is in the access network, and wherein the step of communicating includes the step in the access network of sending a page from the network according to the mapped access network location identities in response to a request from the core network including the core network location identities (0037, 0041, 0042).

Regarding claim 29, Muhonen teaches a method wherein the core network signaling message is received from a core network element and the rule set is attached to the core network signaling message (0046, 0060, page 5 section 0072).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

Art Unit: 2617

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 16-21, 26, 30,** are rejected under 35 U.S.C. 103(a) as being unpatentable over Muhonen (US Patent Number 2005/0181788 A1) in view of (US Publication 2003/0134636).

Regarding claim 16, Muhonen teaches a method of operating a user device in a network, comprising:

receiving a registration accept message associated with a core network through the shared network, the registration accept message including a rule set, the rule set associated with a core network serving the user device through the shared network (0019, 0028, 0046, 0047);

receiving a broadcast message from the radio access network, the broadcast message including core shared network access information (0028, 0042); Muhonen fails to teach storing the rule set in the user device; converting the shared network access information using the stored rule set to determine core network access information. However, Sundar teaches storing the rule set in the user device (0059);

converting the shared network access information using the stored rule set to determine core network access information (0021, 0100). Therefore, it would have been obvious to ordinary skill in the art at the time the invention was made to combine the above teaching of Sundar with Muhonen, in order to provide internetworking a

mobile station to operate in a WWAN environment and in a WLAN environment with PBX services.

Regarding claim 17, Muhonen teaches a method wherein the desired behavior is transmitting a location update request (0046-0051).

Regarding claim 18, Muhonen teaches a method wherein the desired behavior is transmitting a location update request to a mobile station controller (0046-0051).

Regarding claim 19, Muhonen teaches a method wherein the desired behavior is refraining from transmitting a location update request (0046-0051).

Regarding claim 20, Muhonen fails teaches a method further comprising receiving a location area identity which is different from a stored location area identity which is stored in the user device, and refraining from transmitting a location update request. However, Sundar teaches a method further comprising receiving a location area identity which is different from a stored location area identity which is stored in the user device (0059), and refraining from transmitting a location update request (0012, 0068). Therefore, it would have been obvious to ordinary skill in the art at the time the invention was made to combine the above teaching of Sundar with Muhonen, in order to provide internetworking a mobile station to operate in a WWAN environment and in a WLAN environment with PBX services.

Regarding claim 21, Muhonen teaches a user device, comprising:

a transceiver to transmit and receive signals, the transmitter receiving a broadcast message from the radio access network, the broadcast message including a broadcast location identity associated with an access network (0059); and

a controller coupled to the transceiver, the controller mapping the network access information in the broadcast message to a serving core network location identity using a stored rule set to determine mapped location identity, and detecting a cell reselection event when the mapped location identity indicates that a core network cell reselection is detected (0060, 0065, 0069, 0074). Muhonen fails teaches a method further comprising receiving a location area identity which is different from a stored location area identity which is stored in the user device, and refraining from transmitting a location update request. However, Sundar teaches a method further comprising receiving a location area identity which is different from a stored location area identity which is stored in the user device (0059), and refraining from transmitting a location update request (0012, 0068). Therefore, it would have been obvious to ordinary skill in the art at the time the invention was made to combine the above teaching of Sundar with Muhonen, in order to provide internetworking a mobile station to operate in a WWAN environment and in a WLAN environment with PBX services.

Regarding claim 26, Muhonen fails to teach a method of claim 22, wherein the shared access network is local area network. However, Sundar teaches a method of claim 22,

wherein the shared access network is local area network (0073). Therefore, it would have been obvious to ordinary skill in the art at the time the invention was made to combine the above teaching of Sundar with Muhonen, in order to provide internetworking a mobile station to operate in a WWAN environment and in a WLAN environment with PBX services.

Regarding claim 30, Muhonen fails to teach a network element, comprising:

a communication interface between a controller and a system including an access network map core networks; and
a controller coupled to the interface, the controller mapping the network access information to serving core network location identities using a stored rule set to determine mapped location identities and communicating the mapped core network location identities to at least one of the access network and the core network. However, Sundar teaches a network element, comprising:

a communication interface between a controller and a system including an access network map core networks (0063); and
a controller coupled to the interface, the controller mapping the network access information to serving core network location identities using a stored rule set to determine mapped location identities and communicating the mapped core network location identities to at least one of the access network and the core network (0060, 0065, 0069, 0074). Therefore, it would have been obvious to ordinary skill in the art at the time the invention was made to combine the above teaching of Sundar with

Muhonen, in order to provide internetworking a mobile station to operate in a WWAN environment and in a WLAN environment with PBX services.

Response to Arguments

3. Applicant's arguments filed 10/25/06 have been fully considered but they are not persuasive.

In response to the applicant's argument that "*Muhonen fails to teach receiving a signaling message that includes a rule set associated with a core network receiving broadcast information including a rule set associated with a core network; receiving broadcast information including access information associated with a shared network; nor applying the shared network information received to the core network rule set to determine a behavior of the user device*"

The Examiner asserts that Muhonen teaches the invention relates to a method for allocating a roaming number to a subscriber in a mobile network comprising networks elements jointly used by at least two network operators. The invention further relates to a method for forming a visitor location register which allocates roaming numbers in a shared mobile network. The invention also relates to a shared mobile network. The

invention is based on the idea of forming, in the visitor location register, roaming numbers of the network operators sharing the mobile network such that when the roaming numbers are being allocated, calls of the subscriber are routed in a desired manner in the networks of the network operators sharing the network. The structure of the core network 100 corresponds to a combined structure of the GSM and GPRS

systems. The GSM network elements are responsible for establishing circuit-switched connections, and the GPRS network elements are responsible for establishing packet-switched connections; some of the network elements are, however, included in both systems. A serving GPRS support node (SGSN) 118 is the centre point of the packet-switched side of the core network 100. The main task of the serving GPRS support node 118 is to transmit and receive packets together with the user equipment 170 supporting packet-switched transmission by using the radio access network 130 or the base station system 160. The serving GPRS support node 118 contains subscriber and location information related to the user equipment 170. Examine a situation wherein the subscriber 210 roams the area of the mobile network 200 and wherein a radio connection between the subscriber 210 and the radio access network 224 has been established. Roaming starts by the mobile services switching centre of the radio access network 224 receiving the registration of the visiting subscriber 210 and informing the visitor location register 234 that the visiting subscriber 210 has arrived. In fact, from a point of view of the visitor location register, also the subscriber of the visited network is a visiting subscriber. Therefore, the scope of the invention is not limited to a case wherein the visiting subscriber roams and the operators have a specific roaming agreement. Examine a situation wherein the subscriber 210 roams the area of the mobile network 200 and wherein a radio connection between the subscriber 210 and the radio access network 224 has been established. Roaming starts by the mobile services switching centre of the radio access network 224 receiving the registration of the visiting subscriber 210 and informing the visitor location

register 234 that the visiting subscriber 210 has arrived. In fact, from a point of view of the visitor location register, also the subscriber of the visited network is a visiting subscriber. Therefore, the scope of the invention is not limited to a case wherein the visiting subscriber roams and the operators have a specific roaming agreement.

Method for allocating a roaming number to a call of a subscriber in a mobile network comprising elements shared between at least two network operators, the method comprising receiving an order for a call of the subscriber and allocating the roaming number to the call of the subscriber such that the allocation is directed at a roaming number of each network operator sharing the mobile network at a predetermined frequency. An aspect of the invention is a mobile network comprising elements shared between at least two network operators, the mobile network further comprising: a radio access network for establishing a radio connection for a subscriber; a core network connected to the radio access network for establishing a connection for the subscriber; a register of the core network for allocating a roaming number to a call of the subscriber, the register is configured to allocate the roaming number to the call of the subscriber such that the allocation is directed at a roaming number of each network operator sharing the mobile network at a predetermined frequency.

In response to applicant's argument that there is no suggestion to combine Muhonen and Sundar, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one

of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Muhonen teaches a user device, comprising: a transceiver to transmit and receive signals, the transmitter receiving a broadcast message from the radio access network, the broadcast message including a broadcast location identity associated with an access network (0059); and a controller coupled to the transceiver, the controller mapping the network access information in the broadcast message to a serving core network location identity using a stored rule set to determine mapped location identity, and detecting a cell reselection event when the mapped location identity indicates that a core network cell reselection is detected (0060, 0065, 0069, 0074). Muhonen fails to teach storing the rule set in the user device; converting the shared network access information using the stored rule set to determine core network access information. However, Sundar teaches storing the rule set in the user device (0059); converting the shared network access information using the stored rule set to determine core Network access information (0021, 0100). Therefore, by combining the above teaching of Sundar with Muhonen, in order to provide internetworking a mobile station to operate in a WWAN environment and in a WLAN environment with PBX services.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Any responses to this action should be mailed to:

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Naghmeh Mehrpour whose telephone number is 571-272-7913. The examiner can normally be reached on 8:00- 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nick Corsaro be reached (571) 272-7876.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2617

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NM

January 4, 2007

